

## Durham Research Online

---

### Deposited in DRO:

22 April 2009

### Version of attached file:

Published Version

### Peer-review status of attached file:

Peer-reviewed

### Citation for published item:

Sveinbjarnardóttir, G. and Mairs, K-A. and Church, M. J. and Dugmore, A. J. (2006) 'Settlement history, land holdings and landscape change, Eyjafjallahreppur, Iceland.', in Dynamics of northern societies : proceedings of the SILA/NABO Conference on Arctic and North Atlantic Archaeology, Copenhagen, May 10th-14th, 2004. Copenhagen: Aarhus University Press, pp. 323-333. PNM studies in archaeology history. (10).

### Further information on publisher's website:

<http://www.unipress.dk/en-gb/List.aspx?l=cid=10097>

### Publisher's copyright statement:

### Additional information:

---

### Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a [link](#) is made to the metadata record in DRO
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full DRO policy](#) for further details.

# Settlement History, Land Holdings and Landscape Change, Eyjafjallahreppur, Iceland

Guðrún Sveinbjarnardóttir<sup>1</sup>, Kerry-Anne Mairs<sup>2</sup>, Mike J. Church<sup>2</sup>, and Andrew J Dugmore<sup>2</sup>,

## INTRODUCTION

Settlement history and landscape change are closely connected, but if we are to assess their interaction we have to understand patterns of land ownership and use, and how they relate to settlement. Differences in the status, size and the length of occupation of individual settlements may be related to the initial quality and quantity of land available to them, and to changes in these factors through time. An important part of the settlement history of individual sites may, however, also be driven by independent cultural factors such as people's attitudes and aspirations, available technology, the nature of land tenure, and wider social, political and economic factors. Natural environmental changes, such as climate change, floods and, in the case of Iceland, volcanic eruptions, may also play important independent roles in both settlement history and landscape change. The degree to which these different cultural and environmental factors can be assessed varies, depending on the data availability. The identification of their relative importance and role is, however, important to any effective understanding of human-environment interaction.

In this paper we reconstruct a settlement and landholding history for an area of south Iceland and evaluate patterns of change. Our approach combines written records, archaeological data and recent ethnographic information for an area of comparatively simple settlement at the limits of arable cultivation, where change has been profound. It provides the fundamental foundation for studies of the human dimensions of landscape change reported elsewhere (Dugmore *et al.* this volume; Mairs *et al.* this volume).

## APPROACHES AND METHODS

In an area comprising a substantial number of settlement sites, knowledge of the occupation history of all of them is rarely complete. Yet, it is generally more detailed than knowledge of their landholdings. Our approach is to use recent data as the key to reconstructing past land holdings and combining it with the history, status and inter-relationships of individual sites. We determine which are the oldest farms in a district and how the land was subdivided to create space for later farms.

The western and northern part of what is now simply called Eyjafjallahreppur, was selected for study because it forms a coherent region that extends from coastal lowlands below 50 m above sea level, to an upland frontier (Fig. 1). The settlements in the study area have some natural boundaries formed by glaciers and rivers. Some of these boundary-defining features have changed through time with the fluctuation of glaciers and movement of rivers across the sandur plains, whereas others such as gorges and cliffs, and boundaries defined by lines-of-sight to summits have remained constant throughout the history of settlement.

Known settlements in this district have been located in a variety of natural environments, with an altitudinal range from 50-250 m above sea level and variable distances from the sea. They include occupied and abandoned sites, and a range of different occupation times (see Tables 1 and 2). The area is fairly well served with written sources for the settlement history. The earliest, including *Landnámabók* (the Book of Settlements), believed to have been originally compiled in the 12th century (ÍF I), medieval church charters, which have been published (DI I-III, XII), and the so-called contempo-

1. Institute of Archaeology, University College London.

2. Institute of Geography, School of GeoScience, University of Edinburgh.

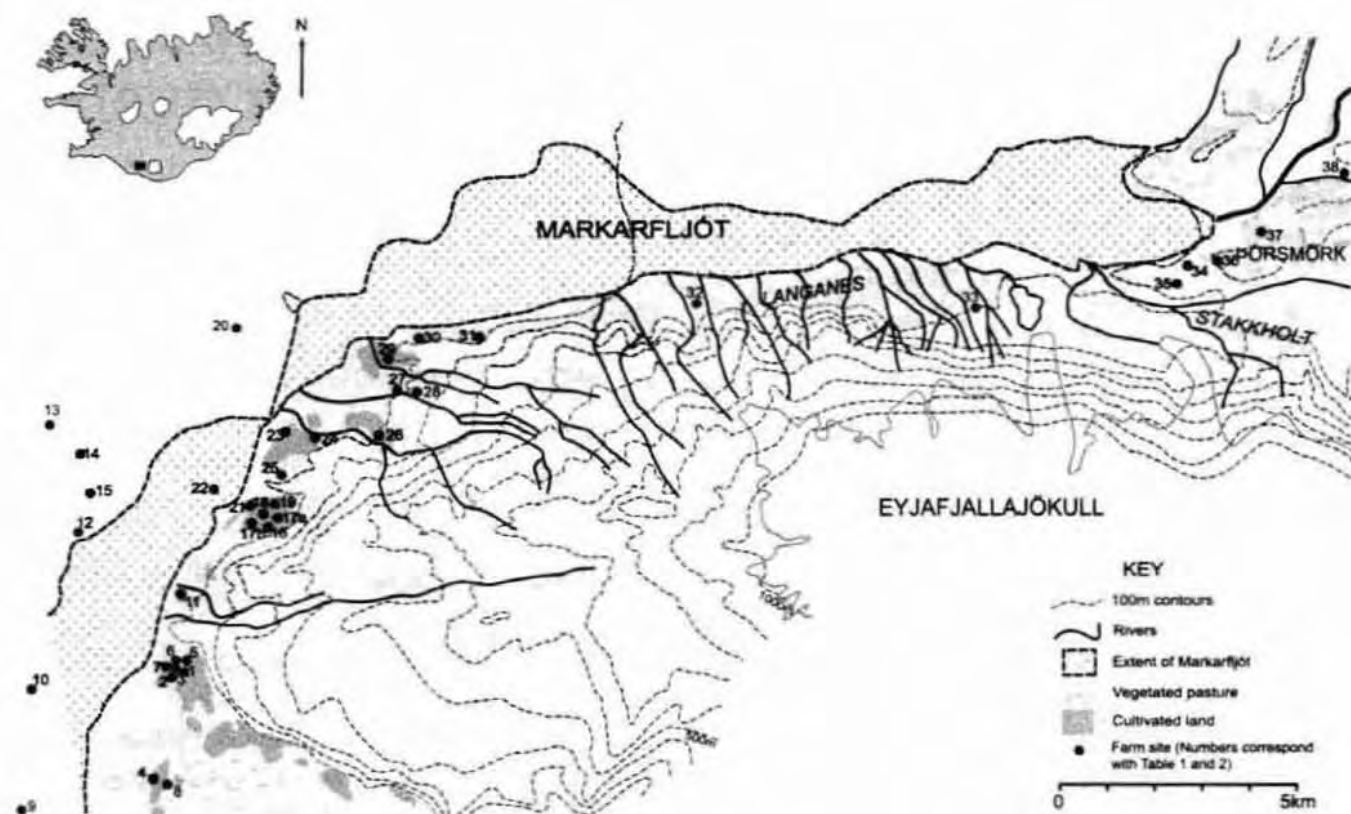


Fig. 1. Study area showing farm locations.

rary sagas, such as Sturlunga saga and the Bishop's sagas, dating to the 13th century, only give a partial history, most often that of the high status sites, such as the church farms. The first more comprehensive sources are the land registers from the late 17th century (Lárusson 1967) and in particular the Árni Magnússon survey of the early 18th century (JÁM 1), which, in addition to all the occupied farms, independent and dependent, also lists abandoned farms. Place-name surveys kept in the Place-name Institute in Iceland and later archaeological survey data (Sveinbjarnardóttir and Gunnarsdóttir 2000) also provide valuable information. Reference is also made to the settlement histories previously produced for the area (Sveinbjarnardóttir 1982, 1983, 1992). Land boundaries have been determined from written records, including a manuscript on land boundaries compiled for the sheriff of the area in 1890 (*Landamerkjabók*), cartographic and ethnographic sources. Some archaeological data is available (Sveinbjarnardóttir 1982, 1992), although no excavations have been carried out, and the area has a detailed and well known environmental history (Dugmore *et al.* 2000).

New maps are created from these sources

showing both site and landholding data for the first time, data that, combined with environmental data forms the basis for an analysis of human-environment interactions (see Dugmore *et al.* this volume; Mairs *et al.* this volume).

## THE TIMING AND LOCATION OF SETTLEMENT

Historical and archaeological evidence indicates that the area was settled during the initial period of settlement in Iceland, in the 9th/10th centuries. The initial settlement spread through both the lowland, and also the inland area of Þórsmörk above the confluence of Markarfljót and Krossá. *Landnámabók* mentions two settlers in Þórsmörk (named Steinnfinnr and Ásbjörn) (ÍF 1: 344, 346). Five sites have been discovered in the area (Sveinbjarnardóttir 1983; Tómasson 1996), four of which are heavily eroded. Their occupation has been dated on the basis of unstratified artefacts found ranging in age between the 9th/10th and 11th/12th centuries, and accounts in the 13th century sources Sturlunga saga (SS I: 532) and the Bishop's sagas (BS I: 291) which seem to suggest that the area was uninhab-



ited at the time they were written. The conclusion is that these settlements were already abandoned by the 13th century. The area is now an 'abandoned frontier' and a key question is whether this abandonment is a distinctive feature of this particular inland margin, or part of a more general pattern. This study shows that abandonment is not restricted to the inland margin. Þórsmörk accounts for less than a quarter of known desertions, but it is notable that they are the earliest known. Other contemporaneous desertions were probably taking place in the lowlands, because the precise locations of some of the earliest sites are unknown, but the difference is that in the lowland later settlement did take place in the same area. Þórsmörk is therefore special because, but for a brief and unsuccessful attempt to re-occupy Húsadalur in the early 19th century, successful farms were never again sited in this inland area.

In the lowland, one original land – take (that of Ásgerðr) mentioned in *Landnámabók* covers the rest of the study area. It is said to lie between Seljalandsmúli and Markarfljót and to include the whole of Langanes up towards Þórsmörk (ÍF I: 343). The site of the settlement was not known when the account was written and the place-name by which it stood has since been lost, probably as a result of erosion by the river. The same fate seems to have befallen other 9th/10th century settlements near the Markarfljót flood plain. The one placed within the land take to the south of the study area is named *ad Auðnum* (ÍF I: 340-41), meaning 'at the deserted place', suggesting that the site had already been abandoned when *Landnámabók* was written. The one to the north was called *Svertingsstaðir* (ÍF I: 350-51), a place-name that is now lost. According to *Landnámabók* it was occupied by the chieftain Jörundur *goði*, whose son Úlfur *urgoði* lived at Dalur. The attribute *urgoði* (meaning literally 'mud *goði*') has prompted the suggestion that his *goðorð* (chieftaincy), inherited from his father, had been reduced to mud by the river by that time (Tómasson 1996).

The oldest settlement in the lowland of the study area is likely to have been located within the homeland of Dalur, the ecclesiastical centre which is still occupied and first mentioned as such in a source from c. 1200 (DI XII: 6). The fact that it became the ecclesiastical centre is also an indication that it was the first settlement in the area. It owned a

large area of land, now extending to both sides of the Markarfljót-river, with much of it now taken up by braiding river channels. A geomorphological study of the river by Hreinn Haraldsson (1981) shows that during the initial period of settlement the main part of the river flowed into the sea along a course further to the west than it does now, with a number of distributaries on both sides of it, creating islands on which settlements were established. This is indicated by place-names, including that of the study area, Eyjafjöll (meaning 'island mountains'). The land would have been good for farming, flat and easily irrigated, and with little woodland.

Early on several settlements will have been established on the initial land-take area covered in this study, a common pattern in Iceland as indicated in *Landnámabók*. The first settlers took more land than they needed for subsistence and soon gave or sold land to other farmers. Written sources indicate that the earliest subdivision is likely to have created Neðridalur, the three Mörk farms and Seljaland, all of which had chapels in the past (see Table 2). In the case of Seljaland, the place-name (meaning 'shieling land') suggests that the area was initially used for shieling activity (probably from Dalur). There is also a tradition that a pagan temple belonging to Dalur once existed here. Supporting evidence includes the place-name *Hoftorfa* (a possible meaning being 'pagan temple turf') and a ruin on the slope just above the Seljaland farm (Sveinbjarnardóttir and Gunnarsdóttir 2000). This ruin was investigated in 1883 (Vigfússon 1888-1892), but the inadequate description and lack of plans do not throw any light on its function. In addition, the date and precise meaning of the place-name is uncertain, making the validity of the claim that the ruin is that of a pagan temple uncertain. A second *Hoftorfa*, where no building remains are known, is found in Steinsholt, the area immediately to the south of Þórsmörk.

None of the other major settlements in the area are mentioned in written sources earlier than the early 18th century (see Table 1). Based on their status and settlement history, and settlement development elsewhere in Iceland it is, however, reasonable to assume that the two farms on either side of Dalur (Hamragarðar and Eyvindarholt) and Tjarnir on the west side of the Markarfljót river were all established before the end of the Commonwealth

Table 1. Sources

Number	Site name	Earliest written sources	Date	Other dating
1	Seljaland	DI II: 683	1332	
2	Péturssel	JÁM 1: 87	1709	
3	Kyrnytarstaðir	JÁM 1: 87	1709	
4	Rotabakkar	JÁM 1: 88	1709	
5	Hátún	JÁM 1: 88	1709	
6	Hvasstún	JÁM 1: 88	1709	
7	Setberg	JÁM 1: 88	1709	
8	Seljalandssel	Sýslu- & sóknarlýsingar	1840	
9	Tjarnir	JÁM 1: 89	1709	
10	Brúnir	JÁM 1: 94	1709	
11	Hamragarðar	Lárusson 1967	1686/95/97	
12	Borgareyrar	JÁM 1: 94	1709	
13	Steinmóðarbær	JÁM 1: 95-6	1709	
14	Steinmóðarbæjarhjáleiga	JÁM 1: 96	1709	
15	Dalsel	JÁM 1: 95	1709	
16	Neðridalur	DI III: 1	1269	
17	Dalskot	JÁM 1: 91	1709	
18	Króktún	JÁM 1: 92-3	1709	
19	Stóridalur	DI XII: 6	c. 1200	
		ÍF XII	c. 1300	
20	Dímonarhólmi	JÁM 1: 96	1709	
21	Ólafshús	JÁM 1: 93	1709	
22	Lambhúshóll	JÁM 1: 94	1709	
23	Murnavöllur	JÁM 1: 96-7	1709	
24	Eyvindarholt	JÁM 1: 97	1709	
25	Litli Murnavöllur	JÁM 1: 98	1709	
26	Syðstamörk	DI II: 683	1332	
27	Miðmörk	DI III: 1	1269	
28	Miðmerkurhjáleiga	JÁM 1: 99	1709	
29	Stóramörk	DI III: 1 ÍF XII: 88, 225, 235	1269 c. 1300	
30	Grófartún	JÁM 1: 101	1709	
31	Nauthús	JÁM 1: 101	1709	
32	Akstaðaflatir (Akstaðir)	DI II: 84-6 Ö-Stóramörk	1270	
33	Smérgil	Tómasson 1996: 42 Ö-Stóramörk		
34	Þurðarstaðir	JÁM 1: 101-2	1709	Archaeol. remains. 9 <sup>th</sup> /10 <sup>th</sup>
35	Þurðarstaðir efri			Archaeol. remains. 9 <sup>th</sup> /10 <sup>th</sup>
36	Húsadalur	JÁM 1: 102	1709	
37	Steinfinnsstaðir	ÍF 1: 344-6	12 <sup>th</sup>	Archaeol. remains. 9 <sup>th</sup> /10 <sup>th</sup>
38	Bæjaralda	Tómasson 1996: 132-3		Archaeol. remains

Table 2. Estimated establishment, abandonment, status

Number	Site name	Establishment	Abandonment	Notes
1	Seljaland	10 <sup>th</sup> /11 <sup>th</sup>	N/A	Chapel site.
2	Péturssel	16 <sup>th</sup> /17 <sup>th</sup>	17 <sup>th</sup>	Dependent to Seljaland
3	Kyrnytarstaðir	17 <sup>th</sup>	17 <sup>th</sup>	Dependent to Seljaland
4	Rotabakkar	1678	1693	Dependent to Seljaland
5	Hátún	16 <sup>th</sup> /17 <sup>th</sup>	17 <sup>th</sup>	Dependent to Seljaland
6	Hvasstún	16 <sup>th</sup> /17 <sup>th</sup>	17 <sup>th</sup>	Dependent to Seljaland
7	Setberg	16 <sup>th</sup> /17 <sup>th</sup>	17 <sup>th</sup>	Dependent to Seljaland
8	Seljalandssel	19 <sup>th</sup>	N/A	
9	Tjarnir	11 <sup>th</sup> /12 <sup>th</sup>	1947	Establ. on land from Seljaland
10	Brúnir	15 <sup>th</sup> >	1947	Establ. on land from Stóridalur
11	Hamragarðar	11 <sup>th</sup> /12 <sup>th</sup>	1963	Establ. on land from Stóridalur
12	Borgareyrar	15 <sup>th</sup> >	N/A	Establ. on land from Stóridalur
13	Steinmóðarbær	15 <sup>th</sup> >	N/A	Establ. on land from Stóridalur
14	Steinmóðarbæjarhjáleiga	1670	1693	Dependent to Steinmóðarbær. Abandoned for 2 years dur.per.
15	Dalsel	15 <sup>th</sup> >	N/A	Dependent to Stóridalur
16	Neðridalur	10 <sup>th</sup> /11 <sup>th</sup>	20 <sup>th</sup>	Chapel site
17	Dalskot	15 <sup>th</sup> >	20 <sup>th</sup>	Dependent to Stóridalur. Became Middalur: occupied
18	Króktún	15 <sup>th</sup> >	1898	Dependent to Stóridalur. Became part of Dalskot
19	Stóridalur	9 <sup>th</sup> /10 <sup>th</sup>	N/A	Church seat
20	Dímonarhólmi	16 <sup>th</sup> /17 <sup>th</sup>	17 <sup>th</sup> ?	Dependent to Stóridalur
21	Ólafshús	15 <sup>th</sup> >	18 <sup>th</sup>	Dependent to Stóridalur
22	Lambhúshóll	15 <sup>th</sup> >	1643	Dependent to Stóridalur
23	Murnavöllur	1662	19 <sup>th</sup>	Dependent to Stóridalur
24	Eyvindarholt	11 <sup>th</sup> /12 <sup>th</sup>	N/A	Establ. on land from Stóridalur
25	Litli Murnavöllur	1679	1694/5	Dependent to Eyvindarholt
26	Syðstamörk	10 <sup>th</sup>	N/A	Chapel site
27	Miðmörk	10 <sup>th</sup>	N/A	Chapel site
28	Miðmerkurhjáleiga	15 <sup>th</sup> >	17 <sup>th</sup>	Dependent to Miðmörk
29	Stóramörk	10 <sup>th</sup>	N/A	Chapel site
30	Grófartún	15 <sup>th</sup> >	17 <sup>th</sup> ?	Dependent to Stóramörk
31	Nauthús	15 <sup>th</sup> >	17 <sup>th</sup> ?	Dependent to Stóramörk
32	Akstaðaflatir (Akstaðir)			Place-name evidence
33	Smérgil			Place-name evidence
34	Þuriðarstaðir	9 <sup>th</sup> /10 <sup>th</sup>	11 <sup>th</sup> /12 <sup>th</sup>	Arch. & documentary evidence
35	Þuriðarstaðir efri	10 <sup>th</sup>	11 <sup>th</sup> /12 <sup>th</sup>	Arch. evidence
36	Húsadalur	9 <sup>th</sup> /10 <sup>th</sup> 1802	11 <sup>th</sup> /12 <sup>th</sup> 1803	Documentary evidence Arch. & documentary evidence
37	Steinfinnsstaðir	9 <sup>th</sup> /10 <sup>th</sup>	11 <sup>th</sup> /12 <sup>th</sup>	Arch. & documentary evidence
38	Bæjaralda	9 <sup>th</sup> /10 <sup>th</sup> ?	11 <sup>th</sup> /12 <sup>th</sup> ?	Arch. evidence



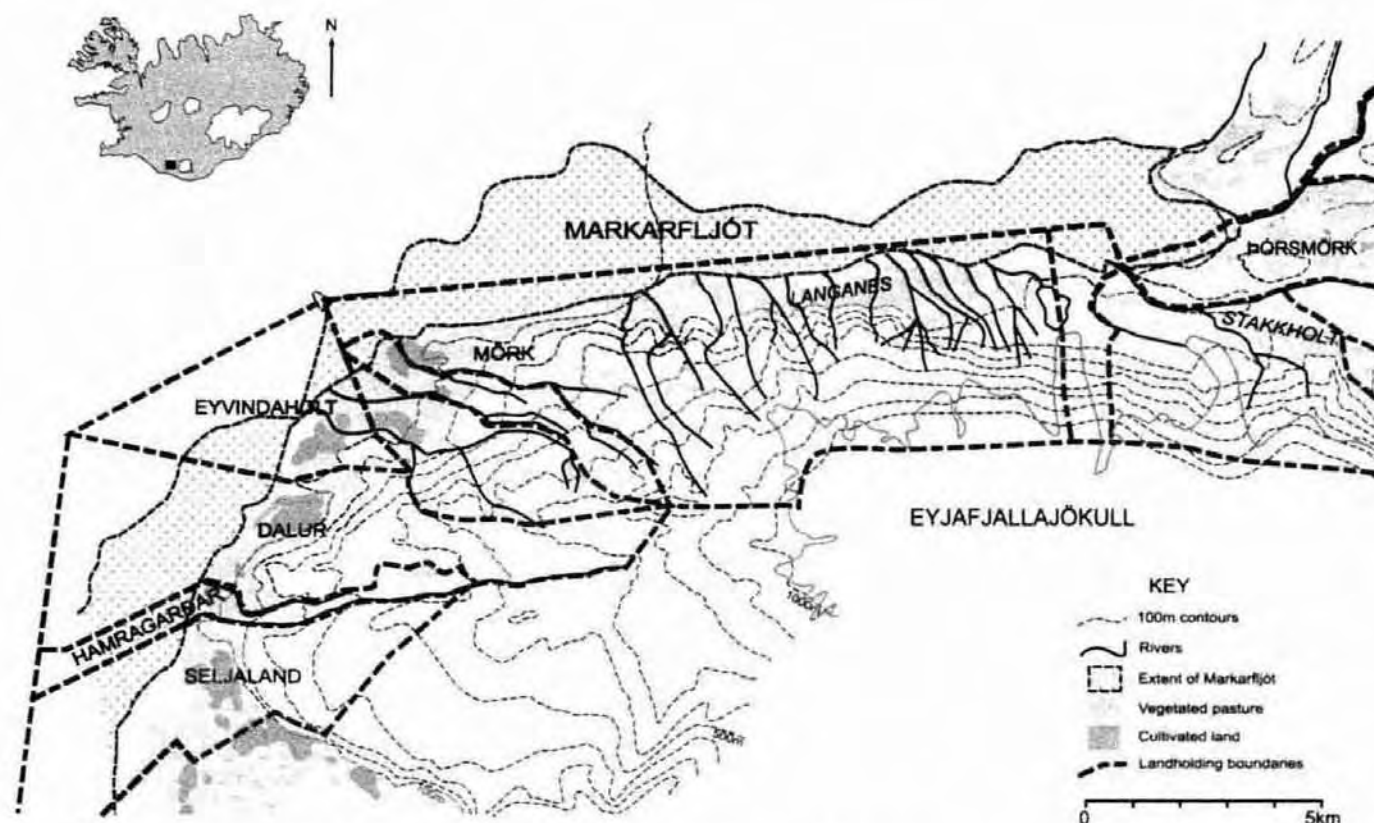


Fig. 2. Map showing boundaries between main settlements in study area.

Period, followed by Brúnir, Borgareyrar, Dalssel and Steinmóðarbær (see Table 2). By the 16th or 17th century a further six farms had been established on the homeland of Dalur on the east side of the river, after the west side had been cut off by the river (Haraldsson 1981). All of these farms were outlying or dependent farms which would have had their own hay-fields, but shared grazing areas with the main farm. Some were not occupied for long. Seljaland owned land similar in quality to Dalur, but not as much of it. Only one farm (Tjarnir) was established on its land on what became the west side of the river. In contrast, seven dependent farms were established in the homefield of Seljaland in the 16th or 17th century, many of which were only occupied for a short period of time.

A couple of place-names and the discovery of human remains and artefacts in Langanes, the stretch of land running east from Stóramörk towards Þórsörk, have prompted the suggestion that there may have been one or even two settlements there in the past (Ö-Stóramörk; Tómasson 1996). Written sources indicate that the woodland in the area was used by a number of church farms on both sides of the Markarfljót river until c. the mid

18th century (Tómasson 1996), although by then it had become fairly depleted. To date, however, all remains of charcoal production found in the area lie below the tephra from Hekla deposited in 1341 (Dugmore *et al.* this volume; Mairs *et al.* this volume).

The first place-name indicating settlement in Langanes is *Akstaðaflatir* (32), *-staðir* being a common ending for a farm-name. In a charter from 1270 of the church at Holt (DI II: 84-6) it is said to own the right to woodland at Akstaðir and a place-name survey states that Holt has the right to graze cattle in this place. Sigmundsson (1979) has argued that the ending *-staðir* originally meant part of property which rich farmers gave to their associates, possibly for rent, when Iceland was being settled. Later many of these places became farms, often including the person's name who settled there. No structural remains have been found at Akstaðaflatir, and although it is possible that erosion by the Markarfljót river or its distributaries might long since have disposed of any such features, it seems more likely that the place-name supports Sigmundsson's theory and that there was never a farm there. The second place-name

*Smérgil* (33) (meaning 'butter gully'), which is about five kilometers further inland, is more suggestive of a shieling than a farm site. Here again no structural remains have been found to support such a hypothesis and it is possible that the place-name simply derives from the fact that the area was good for grazing.

In the 19th century artefacts were exposed by erosion on the slopes by Áslákshóll near *Smérgil*. Although it cannot now be proved that they come from a pagan grave, their typical grave-good composition and a 19th century report of human bones being found in the area, make it likely (Eldjárn 2000). The location, far away from any known farm, but possibly close to the border between Stóramörk and the Þórsmörk farms, might thus fit into a later phase of pagan burials in Iceland, suggested on the basis of location, among other categories (Friðriksson 2004).

## LANDHOLDING DATA

The three major land holdings in the study area are Stóridalur and Stóramörk, which had the same value (60 hundred) in the early 18th century, and Seljaland, 25 hundred in the early 18th century, but thought to have been 50 hundred in the past (JÁM 1: 86, 91, 100). The drop in the value of Seljaland is most likely to be the result of the land being eroded by the Markarfljót-river, as this reason was stated in the land register as the cause of the 17th century abandonment of many of Seljaland's dependent farms.

Land boundaries have been established for modern farms through ethonographic survey, and use of archival sources (Fig. 2). Many of these boundaries are clearly defined by rivers and gorges, but in some areas lines of sight to prominent landscape features are used. This applies

Table 3. Some temporal patterns of farm establishment and abandonment.

Centuries and major time divisions	Farms Established	Farms Abandoned	Comments	'Turnover' rate: Years/farm change
Landnam (ca. 870)				
9 <sup>th</sup> -10 <sup>th</sup>	5			
10 <sup>th</sup>	4			
10 <sup>th</sup> -11 <sup>th</sup>	5			
11 <sup>th</sup> -12 <sup>th</sup>		5		
End of Commonwealth (1262)			Occupied at end of Commonwealth: 9 Turnover ca. 870-1262 (Est. + Aban.): 19	c. 20
12 <sup>th</sup> /13 <sup>th</sup> /14 <sup>th</sup>				
15 <sup>th</sup> > Onset of LIA (1425)	9		Occupied at onset of LIA: 18 Turnover c. 1263-1425 (Est. + Aban.): 9	c. 18
16 <sup>th</sup> >	2			
16 <sup>th</sup> -17 <sup>th</sup>	4			
17 <sup>th</sup>	5	13		
18 <sup>th</sup>			Occupied before max of LIA: 16 Turnover c. 1426-1740 (Est. + Aban.): 24 Occupied after max of LIA: 16	c. 13
Max of LIA (1740)				
19 <sup>th</sup>	2	3		
20 <sup>th</sup>		5	Occupied end of 20th century: 10 Turnover c. 1741-2000 (Est. + Aban.): 10	c. 26
Uncertain	2	2		
End of 20 <sup>th</sup> century (2000)			Currently (2000 AD) occupied: 10 Abandoned: 28 Uncertain: 2 Turnover c. 875-2000 (Est. + Aban.): 66	c. 17
	38	28		



in particular on the sandur with its lack of local fixed topographic features and shifting river courses.

Some information can be gained from written sources about the right of access to extra resources, away from the homeland, by individual farms (Fig. 3). The farm with the most extensive extra resources was, predictably, the church at Stóridalur which serviced the chapels at the other farms in the area, reflecting the wealth amassed by the Church in Iceland from medieval times onwards. Although this information does give an indication of the relative wealth of individual holdings, it has to be borne in mind that the sources are in many cases late and as a whole undoubtedly reflect different situations at different times.

## DISCUSSION

In this paper we have provided a brief survey of the settlement history of one small area in Iceland. One of the main research questions for our study being tackled here is, to what extent the available written sources and boundary data can be used as a basis for a study of human-environment interactions.

There are obviously constraints on the use of writ-

ten sources for a study of early settlement history since most of the sources are of a later date. The question is, to what extent they can be used to reflect on earlier times. The conclusion is that if critically used, with reference to what is known about sites and settlement development in Iceland generally, and in conjunction with information from other disciplines, inferences can be made from these sources about original settlement dates and development. One example is the indication that church farms and those that had chapels early on generally seem to belong to the earliest settlements in the country. Churches in Iceland were initially erected by prosperous farmers at established farms.

Source criticism is no less necessary for later, contemporary sources. An example is the first comprehensive land survey, the Árni Magnússon survey compiled in 1709 for this area. It was commissioned by the Danish King as a measure to evaluate conditions in the country. Farmers may have been wary and reluctant to paint the quality of their land in too rosy colours in anticipation of higher taxes as a result.

Land holding data is also strongly based on recent written sources and recent ethnographic data. The question is, again, to what extent these can be used to reflect on boundaries in the past. Given the apparent stability of most of the settle-

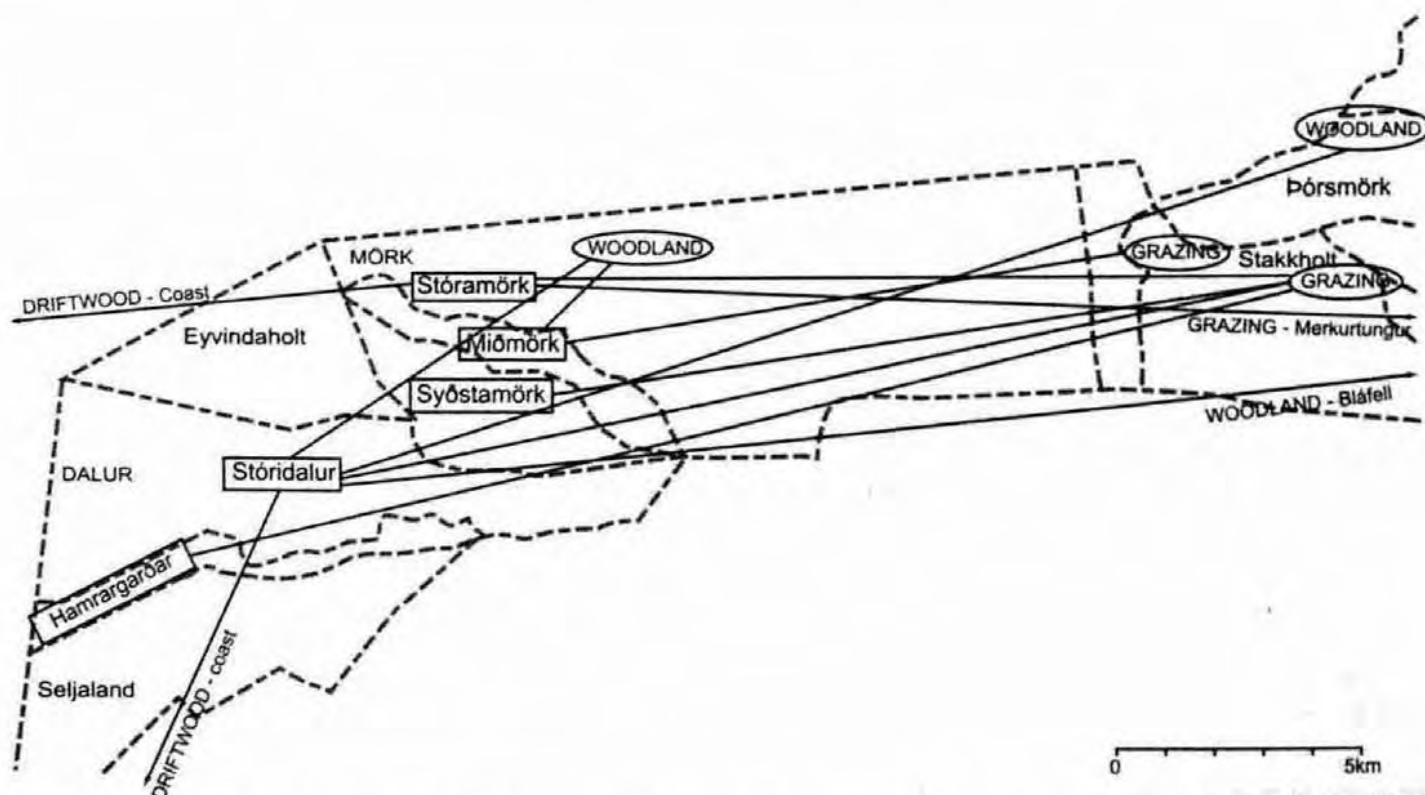


Fig. 3. Arrows indicate location of extra resources away from homeland.

ments in the study area and the fact that many of the boundaries follow fixed landmarks, such as rivers and gorges, which do not seem to have changed much over time, it can be assumed that key boundaries as we know them (such as the divisions between the landholdings of the church farm and its subsidiary settlements) and chapel farms (and their subsidiary settlements) are of considerable antiquity.

There are only limited sources for the 12th-14th centuries. This absence of evidence may, therefore, conceal changes in this time. Given this and other caveats, the settlement development does seem to have been fairly stable, except for the inland area in Þórsmörk and the small, dependent farms on or near the flood plains of the Markarfljót river, settled mostly in the 16th or 17th and abandoned in the 17th or 18th century. In the absence of any obvious environmental and given the presence of a credible cultural alternative, social explanations can be invoked to explain the general phenomena of farm proliferation in the 16th-17th centuries. These small, dependent farms were part of a general expansion of independent households in Iceland, partly explained by the fact that there was a property requirement for marriage. There were more dependent farms established at Seljaland and Dalur than at Mörk, and possibly there is an environmental reason for this. In the 16th century Seljaland may have had more fertile land available on the sandur now swept by the channels of the Markarfljót river. Many of these small farms were abandoned because of the encroachment of the river.

As for the fate of the inland sites in Þórsmörk, which, according to archaeological evidence and written sources were settled early and abandoned early, environmental evidence seems to indicate that landscape change played a part (Dugmore *et al.* this volume). The question still remains whether political and/or economic factors also played a part, such as decisions by one or more powerful landowners controlling the area to force abandonment to aid the conservation of diminishing woodland resources. Unfortunately, direct written sources to test such hypothesis are not available.

The data can be used to explore the idea of 'settlement turnover'. How often are sites established and abandoned through time and is there any notable correspondence with cultural or environmental change? At the broadest level there are

about 38 founding events and 28 abandonment events since landnam. The figure is likely to be a minimum as the details of the earliest settlement are unclear. This gives a general 'turnover' figure of an 'event' about every 17 years. To be consistent with the overall data quality and some rather broad dating envelopes for individual events, time can be divided into four periods defined by: initial settlement (ca. 870), the end of the Commonwealth period (1262), the onset of the Little Ice Age (1425) and the nadir of the Little Ice Age (ca. 1740). It would seem that 'turnover' times reduce through time from c. 20 years (9th-13th century), to c. 18 years (13th-15th century) to c. 13 years (15th-18th century) to increase to c. 26 years in the period 18th-20th century. The impression is that the pace of change seems to have quickened in the first three centuries of the 'Little Ice Age', suggesting possible climatic causes, but these changes can be argued to be a result of cultural changes (the need to have an independent household in order to marry) allied to land sub division that was not sustainable in the long term, in a dynamic physical environment.

## CONCLUSIONS

In Iceland it is possible to reconstruct both settlement history and related landholdings for entire landscapes, and this is a key step in defining the cultural sub-divisions that are necessary in order to explore spatial perspectives of human-environment interaction.

The locations of earliest sites are enigmatic but this uncertainty could reflect a phase of shifting land occupation during the first century of settlement.

Land holding data is strongly based on recent ethnographic data, but given endurance of sites and long-term knowledge of relative status based on written sources, place names and presence of chapels, boundaries are likely to be of significant antiquity. In addition, major divisions are rivers/gorges that have not changed fundamentally in 1000 years and are therefore likely to be of antiquity.

An abandoned frontier is present in the inland area of Þórsmörk, but abandonment was not restricted to the uplands; it has occurred throughout the region. Þórsmörk is special in so much as, barring a very brief 19th century attempt

at re-occupation, the area has not been directly settled since before the 13th century.

Most desertion occurred before the cold phases of the Little Ice Age in the 18th century. Overall, much farm desertion can be attributed to landscape destruction as a result of river migration, but it is also biased towards small dependent farms often established for social reasons and evidently insufficiently resourced for long term success in a changing physical environment.

## ACKNOWLEDGEMENTS

Without the support of the community of Vestur Eyjafjallahreppur this work would not have been possible. The Leverhulme Trust funded this work as part of the Landscapes-circum-landnám project. Additional support from the National Science Foundation of America, the UK Arts and Humanities Research Council and University College London conference fund is gratefully acknowledged.

## REFERENCES

- BS – *Biskupa sögur*. Edited by Guðbrandur Vigfússon. Kaupmannahöfn: Hið íslenska bókmenntafélag, 1858-78.
- DI – *Diplomatarium Islandicum*. Íslenskt fornbréfasafn I, II, III, XII. Kaupmannahöfn & Reykjavík 1857-.
- Dugmore, A.J., Newton, A.J., Larsen, G. and Cook, G.T.  
2000 Tephrochronology, environmental change and the Norse settlement of Iceland. *Environmental archaeology* 5: 21-34.
- Eldjárn, K.  
2000 *Kuml og haugfé úr heiðnum sið*. 2nd edition ed. by Adolf Friðriksson. Reykjavík: Mál og menning.
- Friðriksson, A.  
2004 The topography of iron age burials in Iceland. In: Guðmundsson, G. (ed.) *Current issues in Nordic archaeology. Proceedings of the 21st conference of Nordic archaeologists, 6-9 september 2001, Akureyri, Iceland*. Reykjavík: Society of Icelandic Archaeologists: 15-16.
- Haraldsson, H.  
1981 The Markarfljót Sandur Area, Southern Iceland. Sedimentological, Petrological and Stratigraphical Studies. *Striae* 15.
- ÍF (Íslensk fornrit) I. *Íslendingabók Landnámabók*. Edited by Jakob Benediktsson. Reykjavík: Hið íslenska fornritafélag, 1968.
- ÍF (Íslensk fornrit) XII. *Brennu-Njáls saga*. Edited by Einar Ólafur Sveinsson. Reykjavík: Hið íslenska fornritafélag, 1954.
- JÁM – *Jarðabók Árna Magnússonar og Páls Vídalíns*. Vol. 1. Kaupmannahöfn: S.L. Møller, 1913-1917.
- Landamerkbók Eyjafjallasveitar*. Þjsk. Rang 1990. DC1/1 & 2.
- Lárusson, B.  
1967 *The old Icelandic land registers*. Lund: Gleerup.
- Sigmundsson, S.  
1979 Íslensku staða-nöfnin. *Íslenskt mál og almenn málfræði* 1. árgangur: 238-248.
- SS – *Sturlunga saga* I. Edited by Jón Jóhannesson, Magnús Finnboegason & Kristján Eldjárn. Reykjavík: Sturlunguútgáfan 1946.
- Sveinbjarnardóttir, G.  
1982 Byggðaleifar við Einhyrningsflatir í Fljótshlíð. In: Þórarinsdóttir, H., Óskarsson, Ó.H., Steinþórsson, S. and Einarsson, Þ. (eds), *Eldur er í norðri*. Reykjavík: Sögufélag: 67-77.
- 1983 Byggðaleifar á Þórsmörk. *Árbók Hins íslenska fornleifafélags* 1982: 20-61.
- 1992 *Farm abandonment in medieval and post-medieval Iceland: an interdisciplinary study*. Oxbow Monograph 17. Oxford: Oxbow Books.
- Sveinbjarnardóttir, G. and Gunnarsdóttir, S.  
2000 *Fornleifar í Rangárvallasýslu II. Svæðisskráning fornleifa í Eyjafjallahreppi og Landeyjum*. Vol. 2. Reykjavík: Fornleifastofnun Íslands FS121-99022.
- Sýslu- og sóknarlýsingar Hins íslenska bókmenntafélags 1839-45, 1856 & 1872-3*. Rangárvallasýsla. Reykjavík: Rangæingafélagið, 1968.
- Tómasson, Þ.  
1996 *Þórsmörk. Land og saga*. Reykjavík: Mál og mynd.



Vígfússon, S.

1892 Rannsókn sögustaða sem gerðir voru 1885 í Rangárþingi og í Skaftafellssþingi vestanverðu. *Árbók Hins íslenska fornleifafélags 1888-1892*. 63-75.

Ö-Seljaland: Örnefnaskrá Seljalands. Þórður Tómasson skráði. Örnefnastofnun.

Ö-Stóramörk: Örnefnaskrá Stóru Markar. Þórður Tómasson skráði. Örnefnastofnun.